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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,346	08/29/2003	Andrew Ching Tam	60717-300502 (SJO000019US)	1303

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INTELLECTUAL PROPERTY LAW OFFICES
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EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,346

Applicant(s)

TAM ET AL.

Examiner

M. Alexandra Elve

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-29 and 38-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-29 and 38-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it is two paragraphs.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-24, 26-28 & 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suenaga et al. (USPN 4,301,353) in view of Kerth et al. (USPN 5,544,775).

Suenaga et al. discloses using a laser beam for forming a slider. The laser beam is scanned (reflected) by the polygon mirror. One shot of the laser is approximately 10 nsec to 1 μ sec. A beam expander composed of convex lenses and contracted and shaped by a slit magnifies the laser beam. The slider is brought into coincidence with the focusing plane of the optical system. Q-switching is used on the laser. The rotating polygon mirror is a directing device.

Suenaga et al. does not teach the use of fluence or the presence of a stage.

Art Unit: 1725

Kerth et al. ('775) discloses the making of a high definition, high aspect ratio slider using laser etching. The laser pulse duration is 16 ns and the fluence is substantially 600 mJ/cm^2 . Figure 3 shows the slider workpiece (68) mounted on a holder (78).

It would have been obvious to one of ordinary skill in the art at the time of the invention to note the fluence and use a holder (stage) as taught by Kerth et al. ('775) in the Suenaga et al. system because these are merely functional components of a laser etching system.

Claims 25 & 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suenaga et al. and Kerth et al. ('775), as stated in the above paragraph and further in view of Rieger et al. (USPN 5,790,574).

Suenaga et al. and Kerth et al. ('775) do not teach a harmonic, the energy per pulse or the repetition.

Rieger et al. discloses a laser which used for ablation and etching. The average power range is 1 kW. The laser is Q-switched and the system generates about 150 ps at a frequency of 1 kHz. The energy per pulse is $0.6 \mu\text{J}$. In addition a second harmonic generator may be used. The system also has a steering mirror, a beam expander, and highly reflective mirrors.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a harmonic, determine the energy per pulse and the repetition, as taught by Rieger et al. in the Suenaga et al. and Kerth et al. ('775)

Art Unit: 1725

system because these are merely standard parameters used in a laser ablation system.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suenaga et al. and Kerth et al. ('775), as stated in the above paragraph and further in view of Kerth et al. (USPN 5,739,048).

Suenaga et al. and Kerth et al. ('775) do not teach producing multiple sliders in the system.

Kerth et al. ('048) discloses forming rows of sliders which are partial cut following fabrication which allows easy inspection and packing, but allows for easy separation of the completed slider just prior to assembly.

It would have been obvious to form multiple sliders as taught by Kerth et al. ('048) in the Suenaga et al. and Kerth et al. ('775) system because of the enhanced manufacturing efficiency.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See US PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

Art Unit: 1725

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 22, 2006.

A handwritten signature in black ink, appearing to read 'M. Elve', with a stylized, flowing script.

M. Alexandra Elve
Primary Examiner 1725